FOREST PEST LEAFLET 95

Boxelder Bug

Edward H. Wollerman [1]

The boxelder bug *Leptocoris trivittatus* (Say), occurs in almost every State and has been collected in every month of the year. The favored food plant of this insect is the boxelder tree (*Acer negundo L.*). Boxelder is especially valued in hot and dry regions where few other trees will grow well. The boxelder bug can be expected wherever this host tree is established.

Host Trees

Although the boxelder bug feeds mainly on the female, or seed-bearing, boxelder tree, it has been occasionally observed feeding on maple and ash. Where the insects are extremely numerous, they have been known to feed on strawberries, fruit on orchard trees, and young plants.

Evidence of Infestation

The boxelder bug is most troublesome as a house pest, invading homes during warm days in fall, winter, and spring. Signs of potential home infestation can be found on neighborhood boxelder trees in spring and summer. Egg clusters are not conspicuous, but the bright-red young bugs (called nymphs) are often found in groups and are evident to the casual observer. Spraying the nymphs is an effective control and makes it less likely that homes will be invaded later in the year.

Economic Importance

Trees are seldom damaged severely enough to justify control efforts. In fact the boxelder bug is listed under household insects in survey reports. The nuisance to householders is evident from their frequent requests for information on control. Because of current national emphasis on outdoor recreation and the growing number of homes and parks in sites where boxelder will grow well, control information will probably be in increasing demand.

Description

The adult boxelder bug is about ½ inch long and brownish black

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(fig. 1). Back of the head, on the upper side, are three longitudinal, narrow, red lines. The basal half of the wings has a reddish margin. The abdomen under the wings is bright red. Males and females are similar in appearance.

The eggs are rusty red, ovoid, about $\frac{1}{16}$ inch long, and $\frac{1}{32}$ inch in diameter (fig. 2). They may be clustered on a flat surface or lined up in a row in a crevice. The young bugs or nymphs resemble the adults but lack wings (fig. 3). Nymphs are dark toward their heads and have bright-red abdomens. Wings develop during growth, and the change from nymph to adult is gradual.

Seasonal History

A few years ago the boxelder bug was believed to have one generation a year in the North and two in the South. In 1951 two generations were observed in Kansas; the first adults appeared during July, the second generation matured in early fall, and the adults overwintered. Since then eggs have been found late in June on low-growing vegetation in Ontario, Canada, but not on boxelder trees until August 15. Two generations per year evidently occur more widely than was supposed.

In all regions, adults pass the winter in dry, sheltered places. They come out of hiding during warm winter days and retreat again

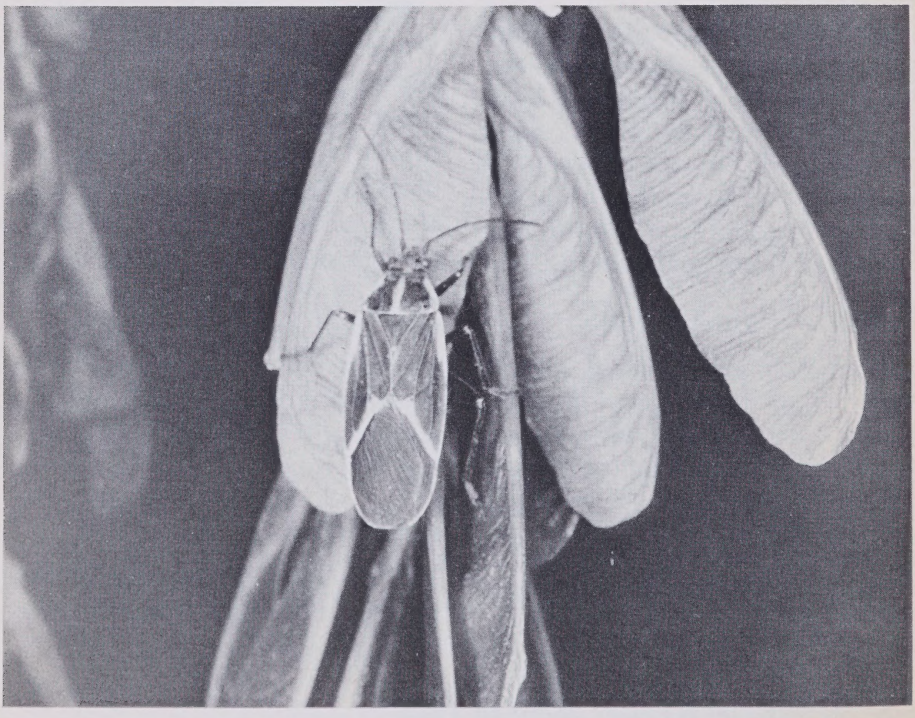

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Figure 1.—Adult boxelder bug on seed of boxelder (enlarged 3X).

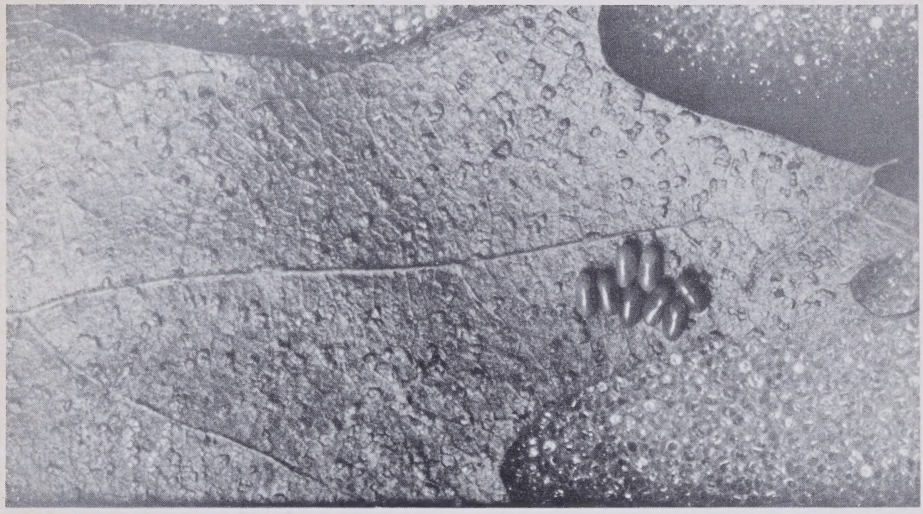

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Figure 2.—Eggs of boxelder bug on leaf litter of previous year (enlarged 3X).

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Figure 3.—Nymphs of boxelder bug (enlarged 3X).

when it turns cold. In spring they leave their places of hibernation and usually fly to boxelder trees, where they deposit their eggs. The time varies according to climate. In Kansas it is late March or early April. Eggs are sometimes laid under the bark or on leaves of trees other than boxelder, as well as on stones, grass, paper litter on the ground, and fences and in doorway crevices.

Although dispersal of the boxelder bug is primarily by adult flight, other means are possible. Adults have been found in a vehicle several hundred miles from where it had been parked near boxelder trees. Transport of eggs laid on ground litter and other moveable objects could also spread infestation.

The eggs hatch in 11 to 14 days. The nymphs feed by inserting their pointed beaks into leaves, fruits, or soft seeds and sucking the plant juices. They feed all summer, become adults in the fall, and then hibernate. In some parts of the country, nymphs may become adults by midsummer and produce a second generation that matures in the fall.

Preventive Measures

Because the boxelder bug becomes a nuisance where boxelder trees are grown, replacement of boxelder with other tree species, if possible, is one method of eliminating it. Because the insect nearly always feeds on female, or seed-bearing, trees, retaining only male, or staminate, trees would reduce its numbers.

Control

Insecticides that effectively control boxelder bugs include lindane and carbaryl. The insecticides are most effective when sprayed directly on the bugs. However, lindane leaves a long-lasting residue on tree trunks, walks, and foundations that will kill bugs walking on it long after application.

Carbaryl is the common name of an insecticide marketed under the trade name Sevin.[2] Its use is hazardous to man and animals because of its toxic character which, however, is lost in about 1 week. Warm-blooded animals rapidly excrete carbaryl accidentally absorbed. Drift and residue problems are therefore minimized when carbaryl is used for boxelder bug control in proximity to farm animals or fish and game areas.

The short residual effect may require more applications than are required with lindane. Though this is a disadvantage, certain situations require greater safety precautions. Each boxelder bug control area should be carefully appraised with regard to its particular problems, such as the hazard of toxic spray drift or the need for a long-lasting spray on foundations of buildings. After an insecticide is selected and obtained, the entire label on the

[2] The use of trade, firm, or corporation names in this publication is for the information and convenience of the reader. Such use does not constitute an official endorsement or approval by the U.S. Department of Agriculture of any product or service to the exclusion of others which may be suitable.

package should be read carefully before the product is put to use.

To prepare a spray, mix 2 tablespoons of 50 percent carbaryl wettable powder in 1 gallon of water. Or mix ¼ pint of 20 percent lindane emulsifiable concentrate in 1 gallon of water. For a larger quantity of spray, mix 2 pounds of 50 percent carbaryl wettable powder in 100 gallons of water; or mix 3 gallons of 20 percent lindane emulsifiable concentrate in 100 gallons of water. Use a high-pressure sprayer and spray directly on infested areas including a thorough wetting of tree trunks.

When boxelder bugs are present in large numbers, as in the vicinity of Washington, D.C., it may be necessary to spray twice in May and once in June, using either of the recommended sprays.

Neither of the sprays kills boxelder bugs instantly even though they are hit directly by the spray; usually it takes at least an hour for the bugs to die.

Pesticide Precautions

Lindane and carbaryl are poisonous and must be handled with care. Wear rubber gloves. If these chemicals are spilled on the skin, wash immediately with soap and water. If they should accidentally strike the eyes, rinse the eyes immediately with clean water.

Pesticides used improperly can be injurious to man, animals, and plants. Follow the directions and heed all precautions on the labels.

Store pesticides in original containers under lock and key—out of the reach of children and animals—and away from food and feed.

Apply pesticides so that they do not endanger humans, livestock, crops, beneficial insects, fish, and wildlife. Do not apply pesticides when there is danger of drift, when honey bees or other pollinating insects are visiting plants, or when they may contaminate water or leave illegal residues.

Avoid prolonged inhalation of pesticide sprays or dusts; wear protective clothing and equipment if specified on the container.

If your hands become contaminated with a pesticide, do not eat or drink until you have washed. In case a pesticide is swallowed or gets in the eyes, follow the first aid treatment given on the label and get prompt medical attention. If a pesticide is spilled on your skin or clothing, remove clothing immediately and wash skin thoroughly.

Do not clean spray equipment or dump excess spray material near ponds, streams, or wells. Because it is difficult to remove all traces of herbicides from equipment, do not use the same equipment for insecticides or fungicides that you use for herbicides.

Dispose of empty pesticide containers promptly. Have them buried at a sanitary land-fill dump, or crush and bury them in a level, isolated place.

WARNING: Recommendations for use of pesticides are reviewed regularly. The registrations on all suggested uses of pesticides in this publication were in effect at press time. Check with your county agricultural agent, State agricultural experiment station, or local forester to determine if these recommendations are still current.

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